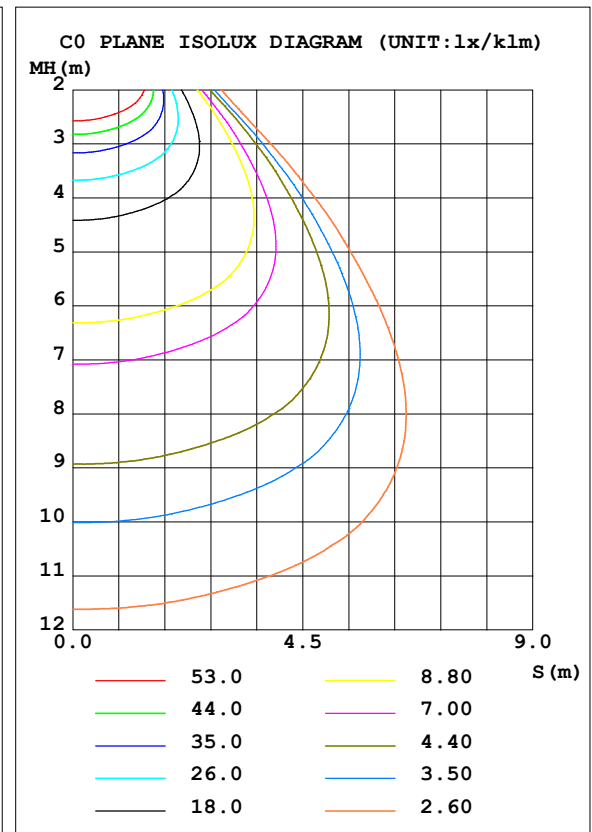
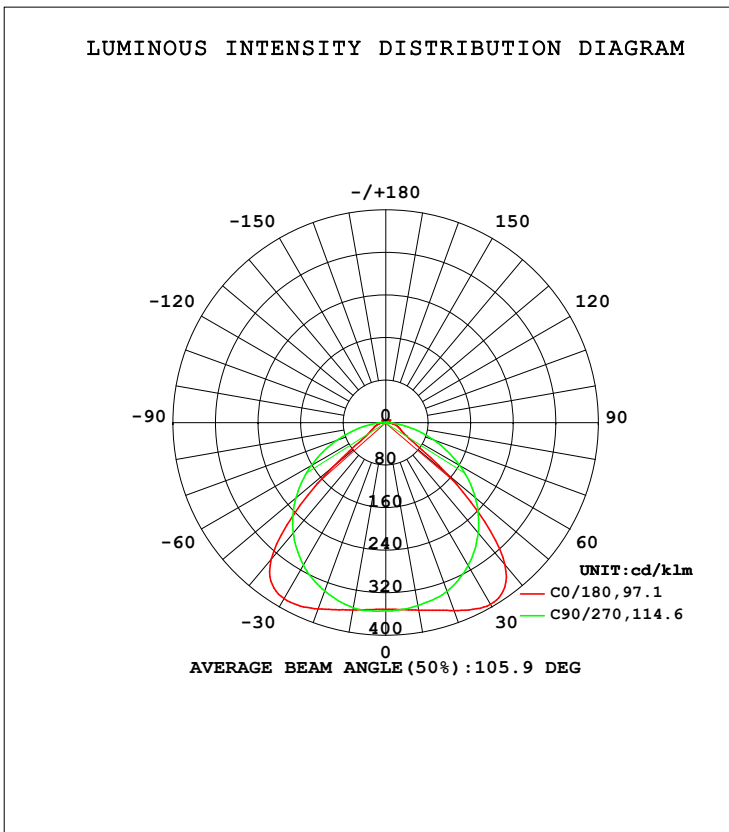


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 162.06 lm/W			
MODEL	"Area" Trunk Light	I <sub>max</sub> (cd/klm)	394.4	S/MH (C0/180)	1.41
NOMINAL POWER (W)	50	LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	230.0	TOTAL FLUX (lm/klm)	1000.0	η UP, DN (C0-180)	1.3, 48.8
NOMINAL FLUX (lm)	8026.37	CIE CLASS	DIRECT	η UP, DN (C180-360)	1.2, 48.7
LAMPS INSIDE	1	η up (%)	2.5	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	230.0	η down (%)	97.5	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Kaye  
 Test Date: 2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

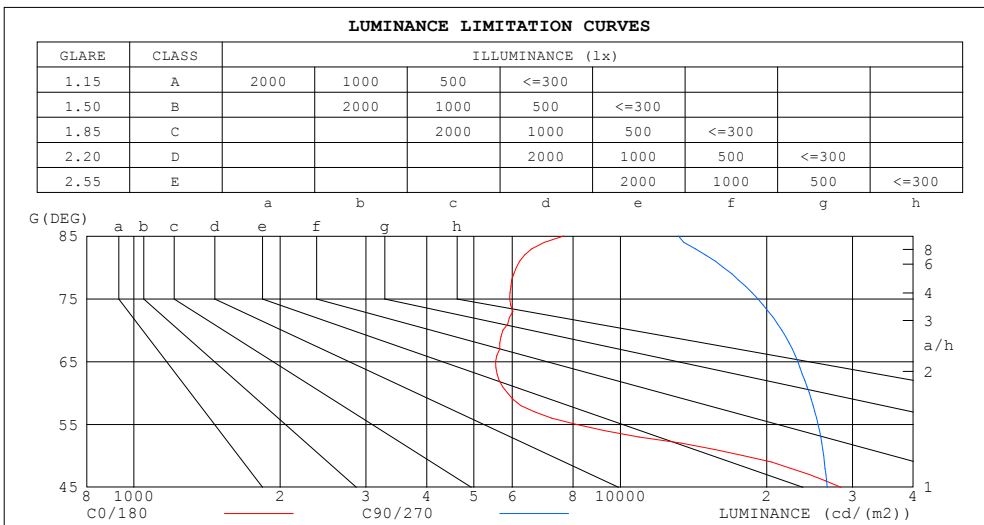
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	358.0	351.3	349.3	360.2	357.5	354.7	353.4	356.5	0- 10	33.81	33.81	3.38,3.38
20	375.8	354.2	337.5	361.1	372.6	361.7	336.6	358.9	10- 20	101.0	134.8	13.5,13.5
30	394.2	364.6	310.1	363.2	382.2	365.1	309.7	363.3	20- 30	165.6	300.4	30,30
40	348.4	361.8	270.6	352.2	335.9	354.0	270.8	356.0	30- 40	218.1	518.5	51.8,51.8
50	150.3	252.3	220.1	237.5	130.4	247.4	220.7	257.1	40- 50	218.3	736.8	73.7,73.7
60	38.32	83.58	160.0	71.72	33.57	76.28	162.0	87.08	50- 60	134.4	871.2	87.1,87.1
70	25.69	23.45	96.15	21.55	21.79	22.23	98.73	23.78	60- 70	64.12	935.3	93.5,93.5
80	13.89	11.59	36.97	10.73	12.04	10.69	40.89	11.33	70- 80	30.04	965.3	96.5,96.5
90	5.373	4.789	2.548	4.238	4.689	4.173	3.180	4.822	80- 90	10.09	975.4	97.5,97.5
100	5.760	4.843	2.267	4.515	4.971	4.241	1.871	4.464	90-100	4.252	979.7	98,98
110	5.568	5.547	2.300	5.354	5.229	4.817	1.975	5.021	100-110	4.463	984.2	98.4,98.4
120	9.853	4.576	2.470	4.636	8.485	4.333	2.215	4.185	110-120	4.695	988.8	98.9,98.9
130	6.158	4.319	2.589	4.665	5.492	4.549	2.332	4.057	120-130	4.057	992.9	99.3,99.3
140	5.358	2.926	2.628	3.388	4.779	3.437	2.445	2.877	130-140	3.059	996.0	99.6,99.6
150	3.206	2.419	2.524	2.815	3.539	2.882	2.516	2.314	140-150	1.905	997.9	99.8,99.8
160	2.654	2.322	2.317	2.462	2.784	2.536	2.432	2.301	150-160	1.204	999.1	99.9,99.9
170	2.514	2.410	2.370	2.453	2.664	2.496	2.395	2.393	160-170	0.6927	999.8	100,100
180	2.579	2.487	2.450	2.457	2.582	2.491	2.452	2.457	170-180	0.2352	1000	100,100
DEG	LUMINOUS INTENSITY:cd/klm									UNIT:lm/klm		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	7650	13156
80	6112	16274
75	5928	19178
70	5741	21491
65	5539	23164
60	5858	24467
55	8094	25503
50	17877	26175
45	28422	26627

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.265	.151	.048	.258	.147	.047	.243	.139	.045	.230	.133	.043	.218	.126	.041	
2.0	.255	.140	.043	.248	.137	.042	.235	.131	.041	.224	.126	.039	.213	.120	.038	
3.0	.240	.128	.038	.234	.126	.038	.223	.121	.037	.213	.117	.036	.203	.113	.035	
4.0	.226	.117	.034	.220	.115	.034	.210	.112	.033	.201	.108	.033	.193	.105	.032	
5.0	.212	.108	.031	.207	.106	.031	.198	.103	.030	.190	.100	.030	.182	.097	.029	
6.0	.199	.100	.029	.194	.098	.028	.187	.096	.028	.179	.093	.027	.172	.091	.027	
7.0	.187	.092	.026	.183	.091	.026	.176	.089	.026	.169	.087	.025	.163	.085	.025	
8.0	.176	.086	.024	.172	.085	.024	.166	.083	.024	.160	.081	.023	.154	.079	.023	
9.0	.166	.080	.022	.163	.079	.022	.157	.078	.022	.151	.076	.022	.146	.074	.021	
10.0	.157	.075	.021	.154	.074	.021	.149	.073	.021	.144	.071	.020	.139	.070	.020	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.209	.209	.209	.179	.179	.179	.122	.122	.122	.070	.070	.070	.022	.022	.022	
1.0	.196	.175	.157	.168	.151	.135	.115	.104	.093	.066	.060	.054	.021	.019	.018	
2.0	.186	.151	.121	.160	.130	.105	.109	.090	.073	.063	.052	.043	.020	.017	.014	
3.0	.178	.133	.098	.153	.115	.085	.105	.080	.059	.060	.047	.035	.019	.015	.011	
4.0	.170	.120	.081	.146	.103	.070	.100	.072	.050	.058	.042	.029	.019	.014	.010	
5.0	.163	.109	.069	.140	.094	.060	.097	.066	.043	.056	.039	.025	.018	.013	.008	
6.0	.157	.101	.061	.135	.087	.053	.093	.061	.037	.054	.036	.022	.017	.012	.007	
7.0	.150	.094	.054	.129	.081	.047	.089	.057	.033	.052	.034	.020	.017	.011	.007	
8.0	.144	.088	.049	.124	.076	.043	.086	.054	.031	.050	.032	.018	.016	.010	.006	
9.0	.139	.083	.046	.120	.072	.040	.083	.051	.028	.048	.030	.017	.016	.010	.006	
10.0	.133	.079	.043	.115	.069	.037	.080	.048	.026	.047	.029	.016	.015	.009	.005	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm										
NAME: LED Linear Lighting System					TYPE:			WEIGHT:4kg		
SPEC.:					DIM.: 1499*70*85mm			SERIAL No.:		
MFR.:					SUR.:1499*70mm			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	14.3	15.7	14.6	15.9	16.2	17.4	18.8	17.7	19.0	19.3
3H	14.4	15.7	14.7	15.9	16.2	18.4	19.6	18.7	19.9	20.2
4H	14.5	15.7	14.8	16.0	16.3	18.8	19.9	19.1	20.2	20.5
6H	14.6	15.7	15.0	16.0	16.3	19.0	20.1	19.4	20.4	20.8
8H	14.6	15.7	15.0	16.0	16.4	19.1	20.2	19.5	20.5	20.8
12H	14.7	15.7	15.1	16.1	16.4	19.1	20.1	19.5	20.5	20.8
4H 2H	14.6	15.8	14.9	16.1	16.4	17.3	18.5	17.7	18.8	19.1
3H	14.7	15.8	15.1	16.1	16.5	18.4	19.4	18.8	19.7	20.1
4H	14.9	15.8	15.3	16.2	16.6	18.8	19.8	19.2	20.1	20.5
6H	15.1	15.9	15.5	16.3	16.7	19.2	20.0	19.6	20.4	20.8
8H	15.2	16.0	15.7	16.4	16.8	19.3	20.0	19.7	20.4	20.9
12H	15.3	16.0	15.8	16.5	16.9	19.4	20.1	19.8	20.5	20.9
8H 4H	15.0	15.7	15.4	16.1	16.6	18.7	19.5	19.2	19.9	20.3
6H	15.3	15.9	15.7	16.3	16.8	19.1	19.7	19.6	20.2	20.7
8H	15.5	16.0	15.9	16.5	17.0	19.2	19.8	19.7	20.3	20.8
12H	15.7	16.1	16.2	16.6	17.2	19.4	19.8	19.9	20.3	20.8
12H 4H	14.9	15.6	15.4	16.1	16.5	18.7	19.4	19.2	19.8	20.3
6H	15.3	15.8	15.8	16.3	16.8	19.1	19.6	19.6	20.1	20.6
8H	15.5	16.0	16.0	16.5	17.0	19.2	19.7	19.7	20.2	20.7
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 2.1					+ 0.4 / - 0.5				
1.5H	+ 0.7 / - 1.7					+ 0.5 / - 0.7				
2.0H	+ 3.0 / - 2.9					+ 1.0 / - 1.4				

CIE Pub.117, 8026 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 7.2)

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:

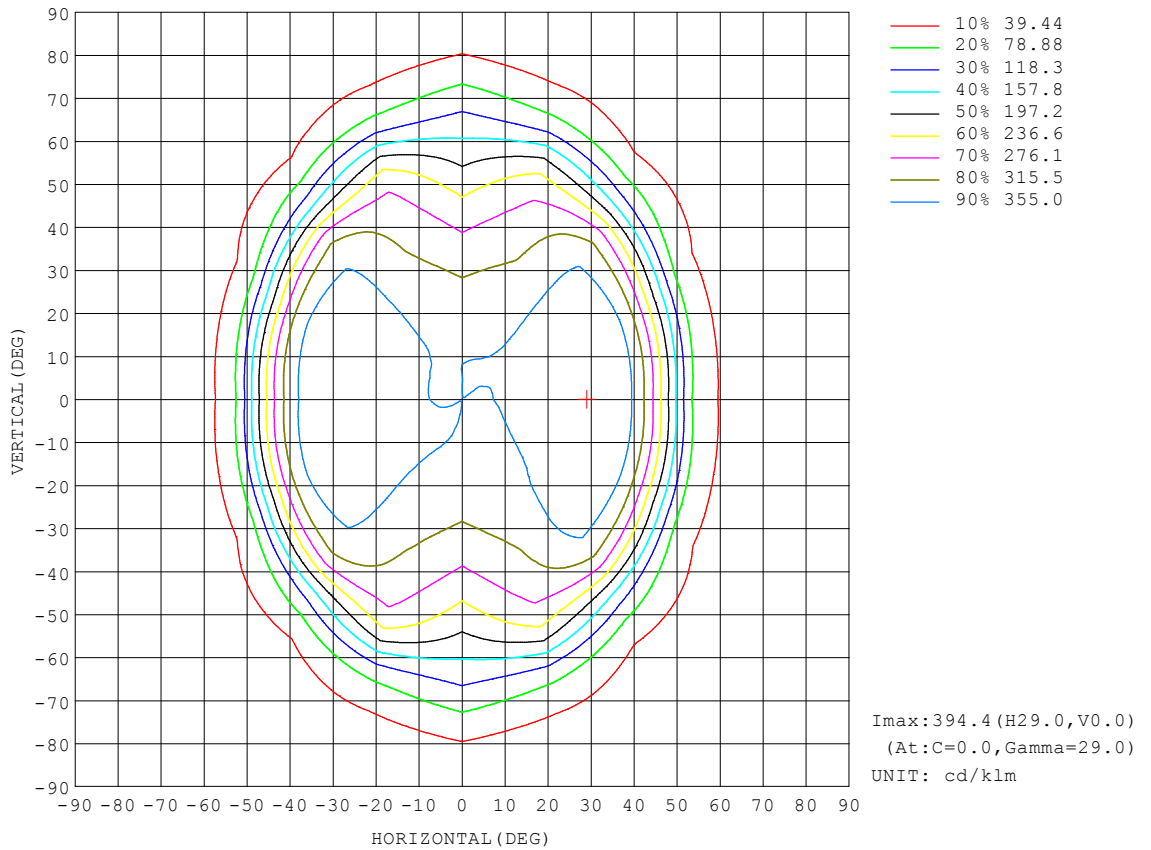
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	61	50	44	60	50	44	59	49	43	37
0.80	72	61	54	71	61	54	69	60	54	47
1.00	80	70	64	79	70	64	77	71	63	56
1.25	87	78	72	86	77	71	83	76	70	64
1.50	92	83	77	90	82	77	87	80	75	68
2.00	98	91	85	96	89	84	93	87	83	75
2.50	101	95	89	99	93	88	95	90	86	78
3.00	104	98	94	102	97	92	98	93	90	81
4.00	108	103	99	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:

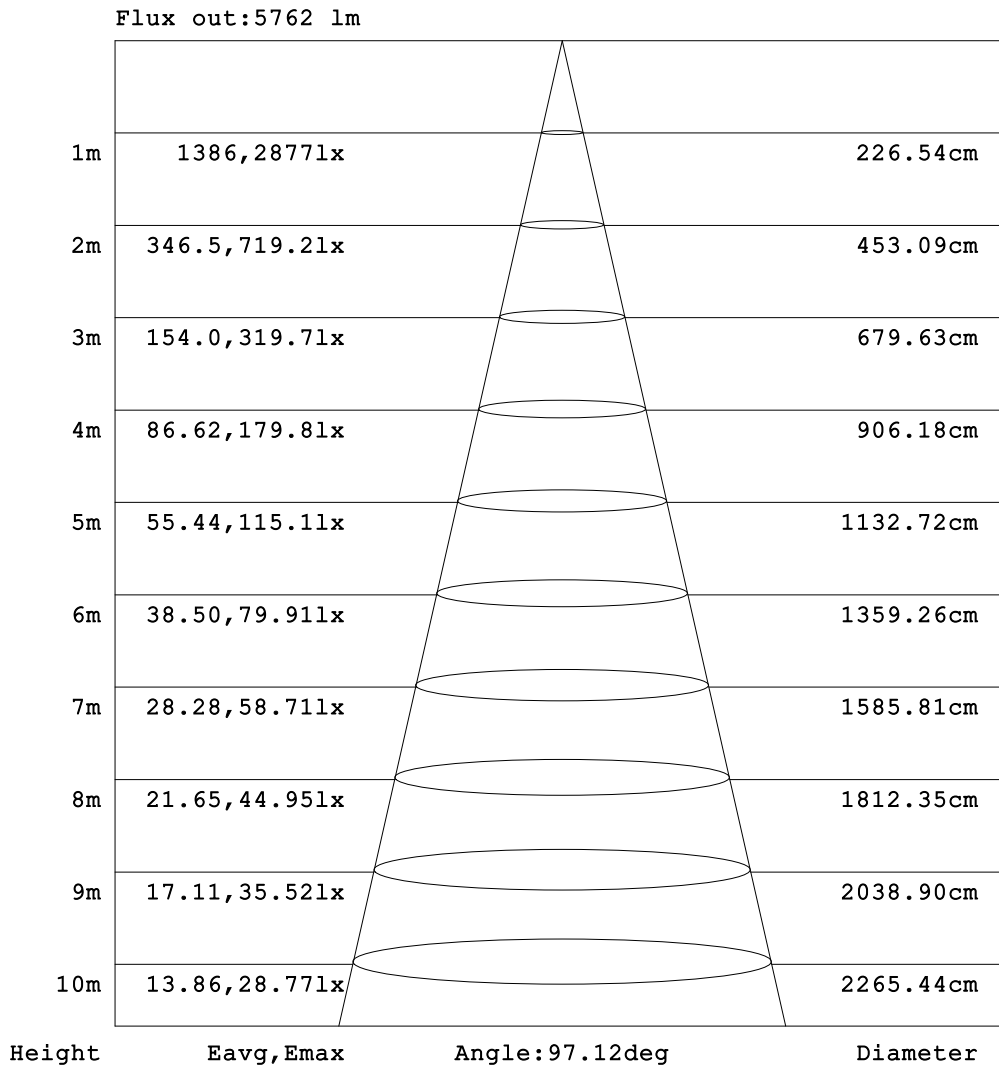


C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:

AAI Figure

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:



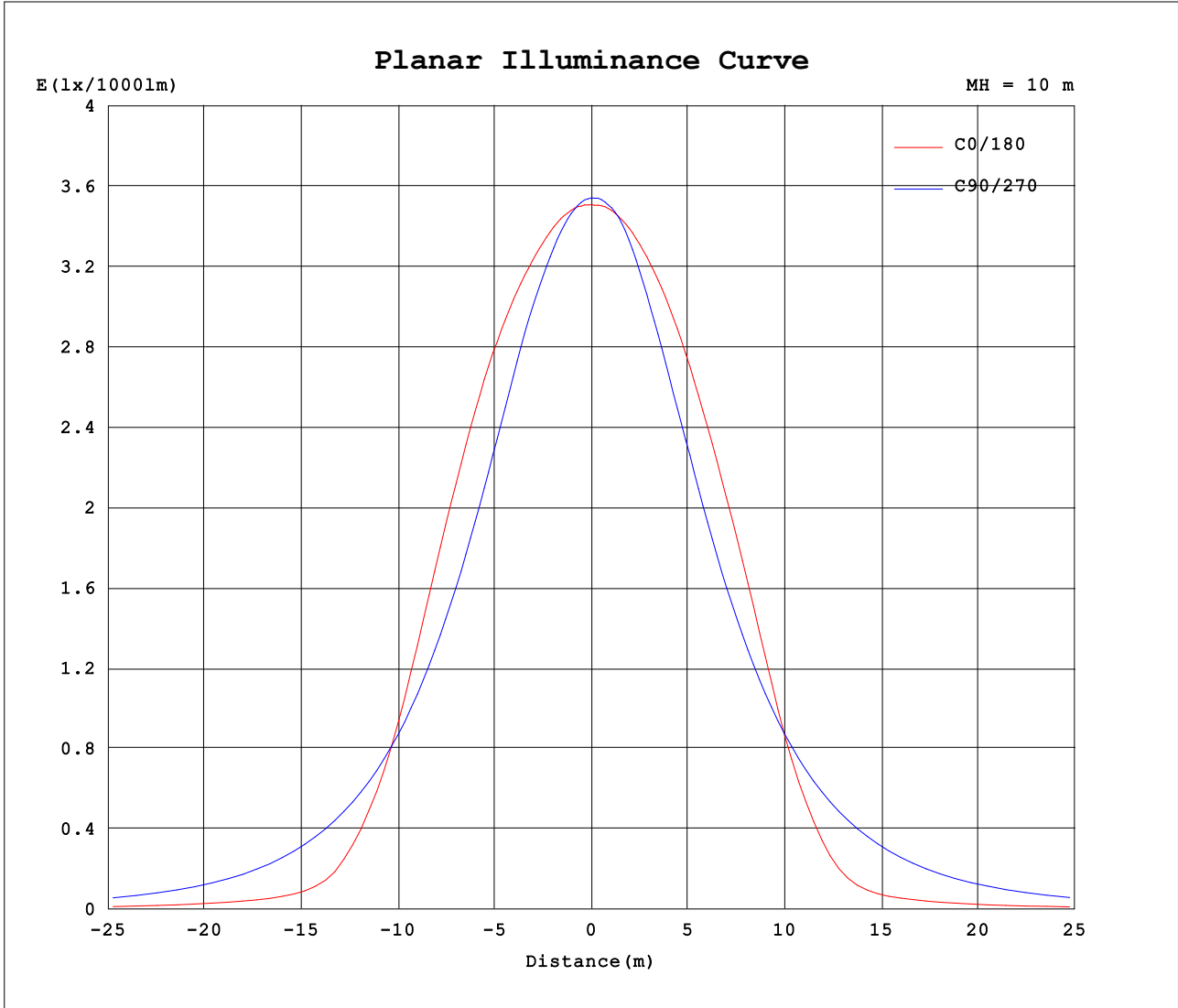
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks:



Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Kaye  
 Test Date: 2017-04-13

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity: 65.0%  
 Test Distance: 8.600m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:231.37V I:0.2280A P:49.527W PF:0.9387 Freq:49.98Hz Lamp Flux:8026.37x1 lm		
NAME: LED Linear Lighting System	TYPE:	WEIGHT:4kg
SPEC.:	DIM.: 1499*70*85mm	SERIAL No.:
MFR.:	SUR.:1499*70mm	Shielding Angle:

Table--1

UNIT: cd/klm

C (DEG) \ γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	351	350	350	351	354	358	356	353	351	350	350	351	354	358	356	353			
5	353	351	351	350	353	358	358	355	353	352	352	352	355	358	356	354			
10	358	355	351	348	349	356	360	359	358	356	355	352	353	355	357	357			
15	365	360	352	344	344	351	361	365	364	363	358	351	346	350	357	363			
20	376	368	354	342	337	346	361	373	373	370	362	346	337	344	359	371			
25	387	378	359	338	325	338	362	381	380	378	364	338	325	335	361	379			
30	394	386	365	330	310	330	363	384	382	382	365	329	310	326	363	387			
35	386	383	369	320	292	321	362	378	372	377	363	319	291	314	363	384			
40	348	358	362	308	271	310	352	351	336	351	354	308	271	302	356	358			
45	263	288	330	295	246	297	320	276	246	275	325	296	247	288	326	289			
50	150	181	252	274	220	279	238	164	130	163	247	278	221	269	257	181			
55	60.7	83.6	153	237	191	241	136	69.5	50.8	69.2	145	243	192	233	158	83.1			
60	38.3	41.3	83.6	171	160	168	71.7	36.2	33.6	35.8	76.3	174	162	172	87.1	40.8			
65	30.6	30.6	41.1	104	128	98.9	35.9	27.4	26.5	27.0	37.8	103	130	105	42.6	29.9			
70	25.7	25.2	23.4	62.9	96.2	58.8	21.6	22.0	21.8	21.8	22.2	60.8	98.7	63.1	23.8	24.6			
75	20.1	20.2	16.2	36.5	64.9	33.7	15.1	17.3	17.2	17.1	15.2	35.7	68.5	37.2	16.0	19.7			
80	13.9	14.4	11.6	15.5	37.0	14.5	10.7	12.5	12.0	12.4	10.7	15.9	40.9	16.5	11.3	14.1			
85	8.72	9.58	8.20	6.26	15.0	6.02	7.36	8.37	7.72	8.33	7.35	6.20	17.7	6.45	8.13	9.38			
90	5.37	5.48	4.79	3.03	2.55	2.84	4.24	4.84	4.69	4.72	4.17	2.83	3.18	3.14	4.82	5.37			
95	5.24	5.03	4.48	2.83	2.49	2.81	4.13	4.61	4.53	4.40	3.89	2.52	2.02	2.60	4.31	4.90			
100	5.76	5.52	4.84	3.05	2.27	3.05	4.52	5.02	4.97	4.85	4.24	2.72	1.87	2.80	4.46	5.40			
105	6.22	5.81	4.69	3.17	2.23	3.20	4.48	5.46	5.46	5.32	4.22	2.87	1.89	2.91	4.40	5.70			
110	5.57	5.04	5.55	3.26	2.30	3.41	5.35	4.95	5.23	4.79	4.82	3.08	1.98	2.98	5.02	4.86			
115	6.11	6.33	5.40	3.43	2.38	3.58	5.01	5.97	5.14	5.72	4.79	3.27	2.10	3.10	5.35	6.00			
120	9.85	8.40	4.58	3.35	2.47	3.47	4.64	7.39	8.49	7.23	4.33	3.21	2.21	3.04	4.18	8.04			
125	6.65	5.82	4.54	3.03	2.52	3.25	4.71	5.44	5.81	5.27	4.48	3.01	2.26	2.78	4.18	5.54			
130	6.16	5.75	4.32	2.80	2.59	3.09	4.66	5.34	5.49	5.20	4.55	2.84	2.33	2.51	4.06	5.53			
135	6.12	5.64	3.67	2.63	2.62	2.91	4.05	5.31	5.51	5.19	4.02	2.70	2.43	2.41	3.52	5.45			
140	5.36	4.36	2.93	2.55	2.63	2.75	3.39	4.45	4.78	4.34	3.44	2.56	2.44	2.37	2.88	4.18			
145	3.99	3.21	2.53	2.51	2.61	2.68	3.03	3.63	3.80	3.54	3.06	2.57	2.52	2.40	2.39	2.96			
150	3.21	2.83	2.42	2.43	2.52	2.58	2.81	3.39	3.54	3.32	2.88	2.51	2.52	2.39	2.31	2.61			
155	2.96	2.63	2.32	2.38	2.47	2.47	2.54	2.92	3.07	2.89	2.62	2.45	2.46	2.27	2.27	2.49			
160	2.65	2.50	2.32	2.26	2.32	2.33	2.46	2.64	2.78	2.63	2.54	2.45	2.43	2.28	2.30	2.41			
165	2.51	2.47	2.36	2.32	2.32	2.36	2.47	2.56	2.68	2.57	2.52	2.45	2.36	2.34	2.36	2.41			
170	2.51	2.48	2.41	2.38	2.37	2.39	2.45	2.53	2.66	2.55	2.50	2.43	2.40	2.39	2.39	2.44			
175	2.54	2.50	2.46	2.44	2.42	2.42	2.44	2.48	2.59	2.51	2.48	2.44	2.43	2.43	2.43	2.47			
180	2.58	2.52	2.49	2.46	2.45	2.45	2.46	2.48	2.58	2.52	2.49	2.46	2.45	2.45	2.46	2.48			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Kaye  
 Test Date:2017-04-13

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.366  
 Humidity:65.0%  
 Test Distance:8.600m [K=1.0000]  
 Remarks: